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On the distribution of *Gnaphosa orites* (Araneae: Gnaphosidae) with a note on its southernmost record, from the Russian Far East

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Abstract — The distribution of the Holarctic *Gnaphosa orites* is presented, including its southernmost record in the Russian Far East. *G. orites* has the broadest geographical range in terms of latitudinal distribution among all known *Gnaphosa* species: from 43° to 70°N. Notes on its biology and diagnostic photographs of the habitus and copulatory organs are provided.

Key words — spiders, East Palaearctic, Asia, distribution, *Gnaphosa*

Introduction

Gnaphosa Latreille, 1804 is a large Holarctic genus of ground spiders with 139 described species (Platnick 2011). Most of the species occur at latitudes between 30°N and 55°N. Only eleven species of *Gnaphosa* have been reported north of the Polar Circle: *G. borea* Kulczyński, 1908, *G. chola* Ovtsharenko & Marusik, 1988, *G. lapponum* (L. Koch, 1866), *G. leporina* (L. Koch, 1866), *G. microps* Holm, 1939, *G. similis* Kulczyński, 1926, *G. muscorum* (L. Koch, 1866), *G. nigerrima* L. Koch, 1877, *G. orites* Chamberlin, 1922, *G. parvula* Banks, 1896 and *G. sticta* Kulczyński, 1908. *G. parvula* occurs only in the Nearctic region. *G. borea, G. microps, G. muscorum* and *G. orites* are known from both the Palaearctic and Nearctic regions. *G. lapponum* was found above the Polar Circle in Greenland and Lapland.

Among these eleven species only two species, *G. lapponum* and *G. orites*, have been reported at the latitude of 71°N (Marusik et al. 1992, 2006). All the other *Gnaphosa* species occurring in the Arctic have rather wide and continuous zonal ranges, reaching southwards to latitudes of 45°N. The two northernmost species have smaller ranges. *G. lapponum* has a disjunct range and is known from eastern Greenland at latitudes of 70°−71°40′N, from Fennoscandia, Belorussia, Czech Republic, Switzerland and in the Italian Alps (Helsdingen 2010). *G. orites* has a continuous range in Siberia at latitudes above 57°N. Only three previous records were known south of 57°N, outside of the main range: Tuva (ca 50°N), Cisbaikalia (ca 51°32′N) (Marusik & Koponen 2001) and northern Cisamuria (ca 52° N) (Trilikauskas 2007).

While studying material collected in Oblachnaya Mountain in the southern part of Maritime Province we found several specimens of *G. orites*. The nearest known locality of this species lies in northern Cisamuria (ca 52°N) (Trilikauskas 2007). Here we provide detailed data about this southernmost record of *G. orites*.

Material and methods

Specimens were photographed using an Olympus Camedia E-520 camera attached to an Olympus SZX16 stereomicroscope in the Zoological Museum, University of Turku. The images were montaged using "CombineZP" image stacking software. Photographs were taken in dishes of different sizes with paraffin at the bottom. Different sized holes were made in the bottom to keep the specimens in the correct position.

The material treated herein will be deposited in Gornotayozhnaya Station (GTS).

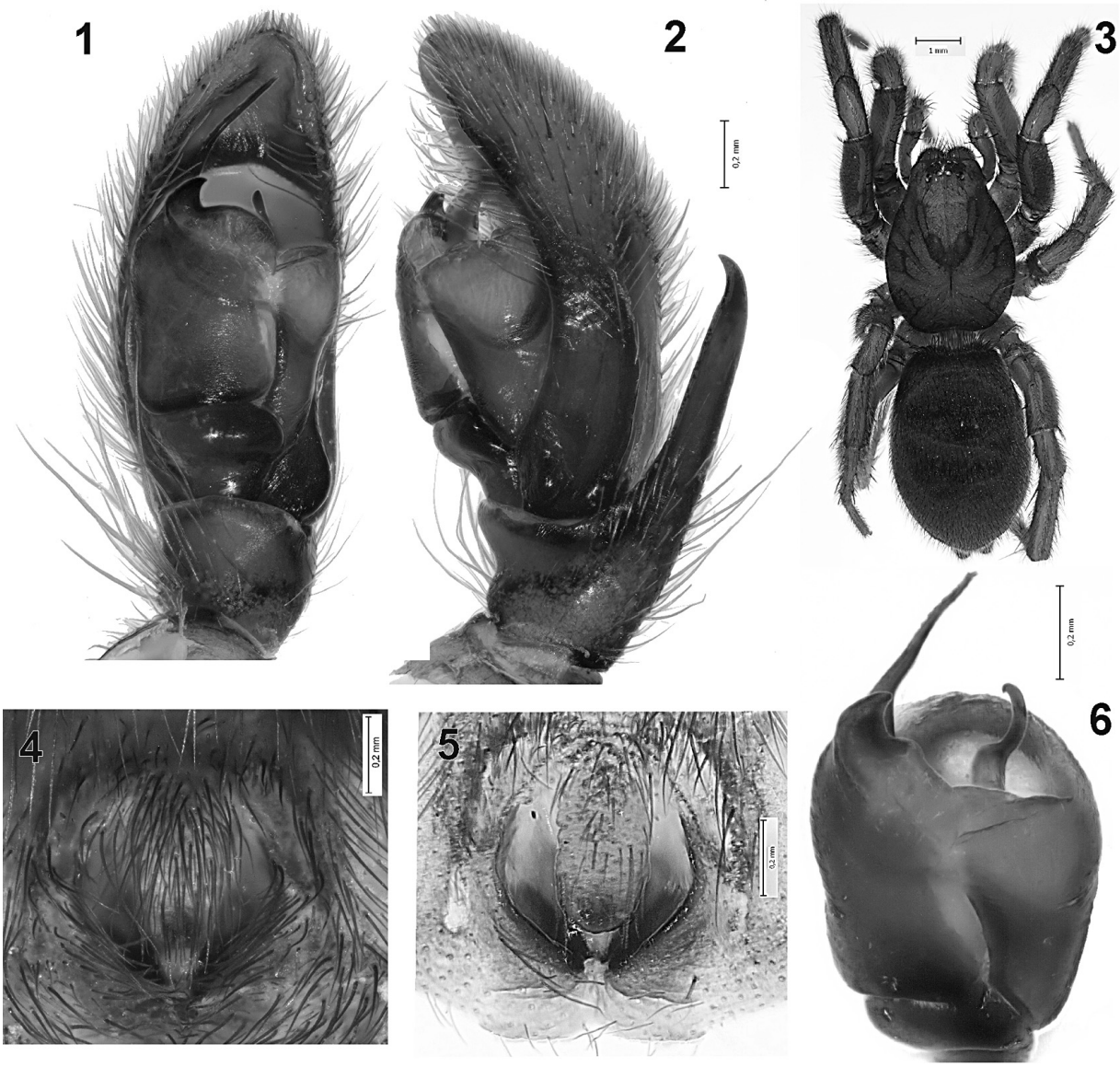
Gnaphosa orites Chamberlin, 1922

(Figs 1−7)

Gnaphosa orites: Ovtsharenko & Marusik 1988, p. 208, figs. 4−6 (♂♀); Platnick & Dondale 1992, p. 186, figs. 284−287 (♂♀); Ovtsharenko et al. 1992, p. 60, figs. 207−212 (♂♀); Ovtsharenko & Marusik 1996, p. 117, pl. 3, figs. 1, 3, 11 (♂♀); Marusik & Koponen 2001, p. 140, figs. 4 (♂); Paquin & Dupérré 2003, p. 77, figs. 657−659 (♂♀).

Material examined. 5♂ 1♀ (GTS) Russia, Maritime Province, Chuguevskii Distr., Oblachnaya mountain, 43°41′ 42.63″N 134°12′00.47″E, scree, 16-25.06.2008, 1700 m. (M. Omelko).

Comments. This species has been well described and illustrated in the papers cited above. It can be easily distinguished from all other Asian species by the long tibial



Figs 1–6. Habitus and copulatory organs of *Gnaphosa orites*. 1–2, male palp, ventral and retrolateral; 3, habitus of female; 4–5, epigyne, ventral, before and after maceration; 6, bulbus, ventral.

apophysis and the hook-like base of the embolus in males, and the long epigynal scapus in females.

Biology. *G. orites* occurs in the upper reaches of the Kolyma River at elevations over 700 m. It is the dominant gnaphosid species in the mountain tundra. This species is most numerous in thin *Pinus pumila* stands with thick litter. Adults can be found throughout the entire snowless period. Their peak density was observed in mid June (Ovtsharenko & Marusik 1988). Besides mountains, it also occurs in habitats of the transitional zone between the mountain tundra and taiga belt. In Maritime Province all specimens were collected from the mountain tundra.

Distribution. *G. orites* has a circum-Holarctic hemiarctic range (Marusik & Koponen 2001): in Europe it is known from Norway, Sweden, Finland and Russia (Helsdingen 2006), in Asia it is known from the Polar Ural southward to Tuva, Cisbaikalia, Cisaumria and the Maritime Province (present record), northward to the Wrangel Island and eastward to the Bering Strait (Marusik & Koponen 2001). In the Nearctic this species was found in the highlands of Wyoming (ca 45°N) and New England (ca 44°N), and northward to the Mackenzie delta (Platnick & Shadab 1975; Platnick & Dondale 1992). There is a clear disjunct distribution in Asia between 60° and 50°N (Fig. 7). In the tundra zone *G. orites* is much more abundant than in the taiga zone and occurs in various habitats. It is worth mentioning that the southern distribution limits of this species in Asia and the Nearctic are almost the same (cf. Fig. 7), and the north-south extent of its range is the greatest among all known *Gnaphosa* species.

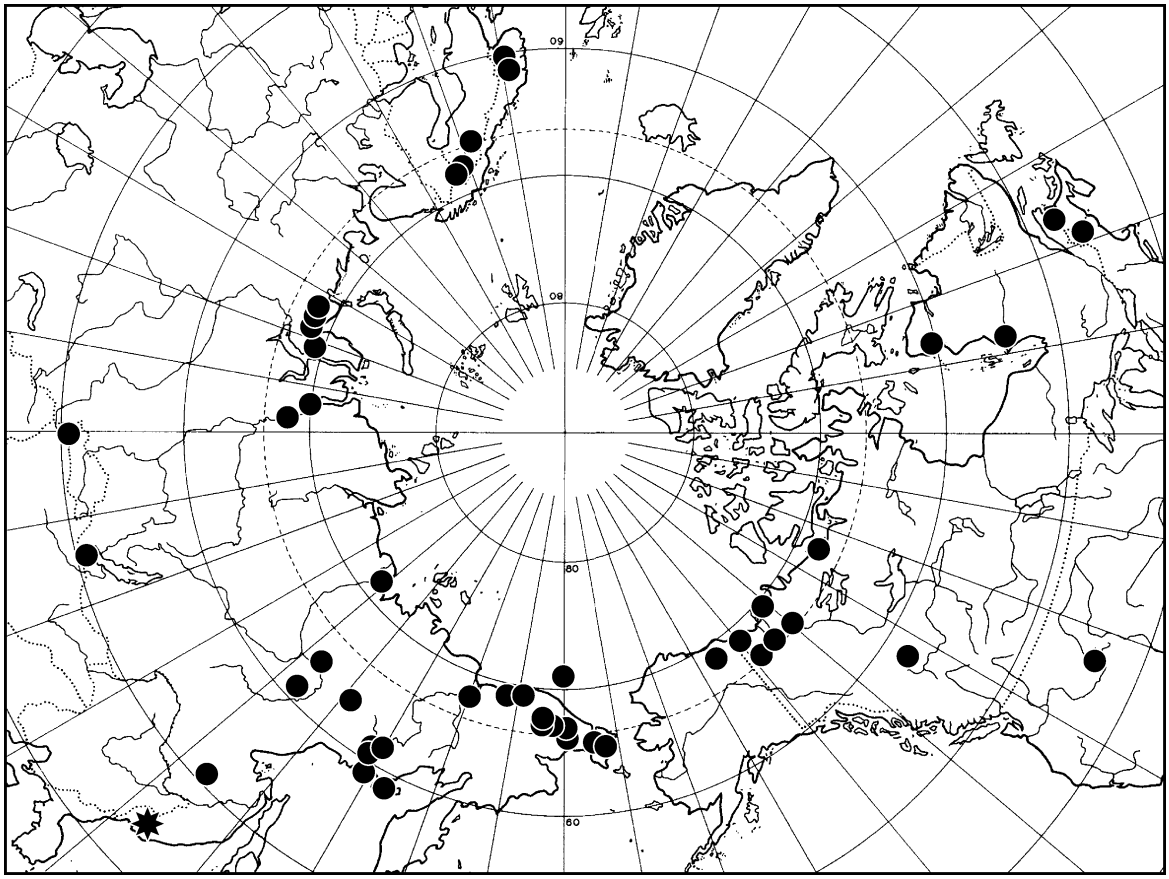


Fig. 7. Distribution of *Gnaphosa orites*. Star indicates the record from Maritime Province.

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